

# EMR

ELECTRO-MECHANICAL  
RESEARCH, INCORPORATED  
SARASOTA, FLORIDA

**ELECTRO  
MECHANICAL  
RESEARCH**



**EMR's** MOST IMPORTANT ASSETS are the quality and industry of the people who constitute its professional and supporting staff. By careful selection of personnel EMR has created an exceptionally well-qualified staff . . . by giving individuals maximum responsibility coupled with recognition for accomplishment EMR has an environment in which professional personnel can realize their full creative ability. The success of these policies is witnessed by an impressive record of stable employment among professional personnel, and by the positive growth of EMR leadership in the electronics industry.

*. . . Environment for Maximum Responsibility*

## EMR . . . A WONDERFUL PLACE TO WORK

**T**ECHNICAL EFFICIENCY IN AN ATMOSPHERE OF FRIENDLY COOPERATION is one of the outstanding features of the EMR working environment. EMR policy which stresses individual responsibility, contributes strongly to this environment.

Located on 90 acres only a few miles from Sarasota on the Gulf of Mexico, EMR's Systems Division and Sarasota Products Division occupy over 120,000 square feet in three modern air-conditioned buildings overlooking a small lake. EMR assures the creative technical man an opportunity to contribute to his professional growth through good laboratory facilities, numerous conference rooms, and a centrally located library containing a wide selection of technical and scientific books and periodicals, available for reference and study in quiet alcoves.

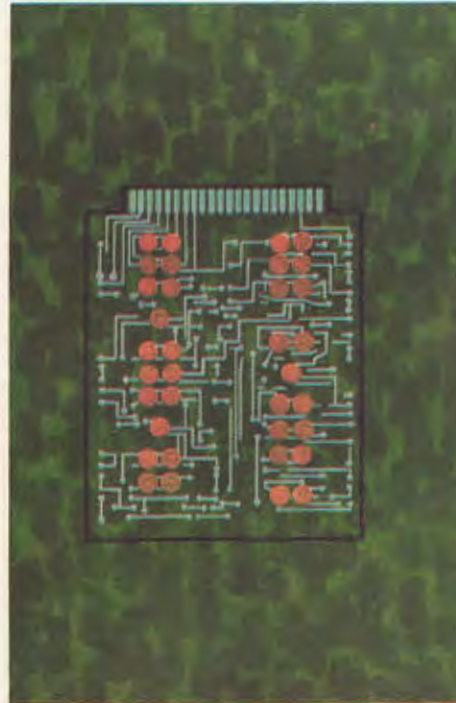




## LEADERSHIP THROUGH PLANNED GROWTH . . .

EMR HAS MAINTAINED A POSITION OF TECHNICAL LEADERSHIP in data acquisition and processing since its inception in 1941. Through self-sponsored research and development, organizational flexibility, and effective engineering-oriented management, EMR has become one of the largest manufacturers of telemetry and data-processing equipment in the world. Continued growth and stability are assured by financial strength and vitality.

There are two main operating divisions in the Sarasota facility. The Sarasota Products Division conducts self-sponsored research leading to new data-processing instruments. The Systems Division applies systems engineering techniques to the design of data-acquisition and data-processing systems.



## SARASOTA PRODUCTS DIVISION

Diversification of products through self-sponsored research is one of the keynotes of EMR's success. Standard EMR products developed and manufactured by the Sarasota Products Division range from PCM telemeters, electronic commutators, transmitters and other airborne telemetry



equipment to FM discriminators and advanced digital decommutation stations for ground data processing. The products of this Division have become industry standards and are used extensively as primary instrumentation for virtually all missile and spacecraft tests. The Division has produced and delivered many more than 10,000 FM subcarrier oscillators since the company has been founded, and has supplied nearly 8,000 subcarrier discriminators — more than the rest of the industry combined.

## SYSTEMS DIVISION

Data acquisition and processing systems combining electronics, optics, and electro-optics represent an important share of EMR's business. Typical of the programs carried out by the Systems Division are the MADRE (Martin Automatic Data Reduction Equipment), designed to process



telemetry data automatically from such missiles as the Pershing; satellite integration and prelaunch checkout management carried out for NASA on S-3 satellites and others; the test-instrumentation sub-system for the Dyna-Soar manned space glider program, largest contract of its type ever awarded; and the Project Telescope electro-optical system for the Orbiting Astronomical Observatory. Specialized systems programs of a research nature are carried on by the Advanced Systems Department of the Division.

## RELIABILITY AND QUALITY ASSURANCE

Both divisions maintain Reliability and Quality Assurance Departments which develop and maintain the company's exacting and rigorously enforced quality-control procedures. Heavy involvement in aerospace programs results in application of reliability studies at all levels and at all



design stages. For example, to assure that all incoming electronic parts meet requirements, parts are routinely aged under cyclic electrical and environmental conditions . . . to provide an added degree of sophistication to EMR's reliability studies, the departments use a general-purpose digital computer to perform simulations of circuit performance as a function of part parameter variations.

## MANUFACTURING

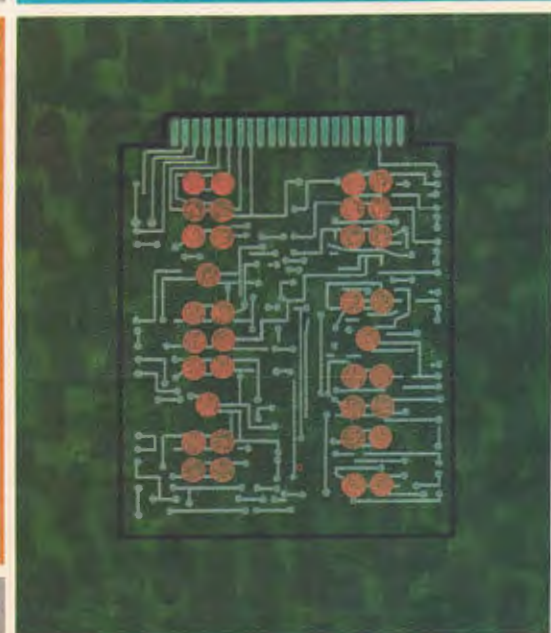
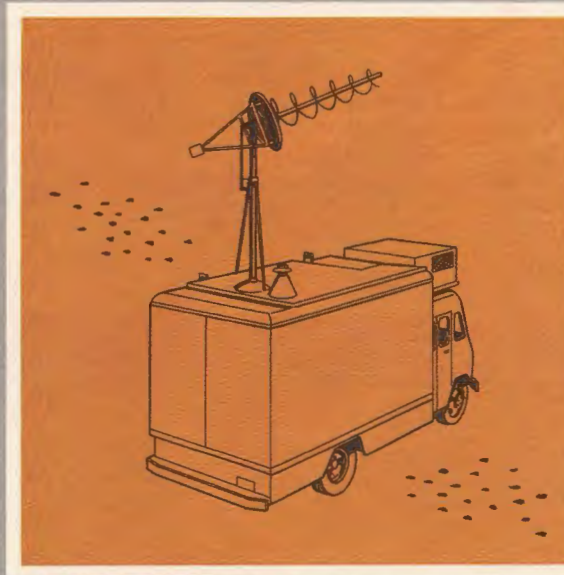
More than half of all EMR personnel are associated with the manufacturing process — from procurement of basic components to shipment of final products. The nearly 100,000 square-foot area devoted to manufacturing is well equipped with advanced electronic and electro-mechanical equip-



ment, test instruments, model shops, printed circuit shop, component fabrication facility, circuit welding lines, metallurgy laboratory, machine shops, electroplating facility, and other specialized service shops. Facilities are so comprehensive that very nearly all fabrication, aside from some electronic components, is performed in-house.

## EMR DATA SYSTEMS HAVE A WIDE RANGE OF APPLICATION

**T**HE FIRST SUCCESSFUL AIRBORNE DATA-SAMPLING COMMUTATORS, PDM components, and FM telemetry were developed by EMR. Since then, EMR systems have been installed both by the company and by its customers in every conceivable location — mobile instrumentation vans, picket ships, missile ranges, static test facilities, naval vessels, down-range islands, aircraft, sled-track vehicles, military vehicles, and numerous others. Since 1948, the company has designed and manufactured hundreds of complete FM, digital decommutation, and PAM/PDM decommutation ground-station systems of various types. These stations, ranging in size from one to more than 100 racks, have been supplied primarily to military establishments and military prime contractors.



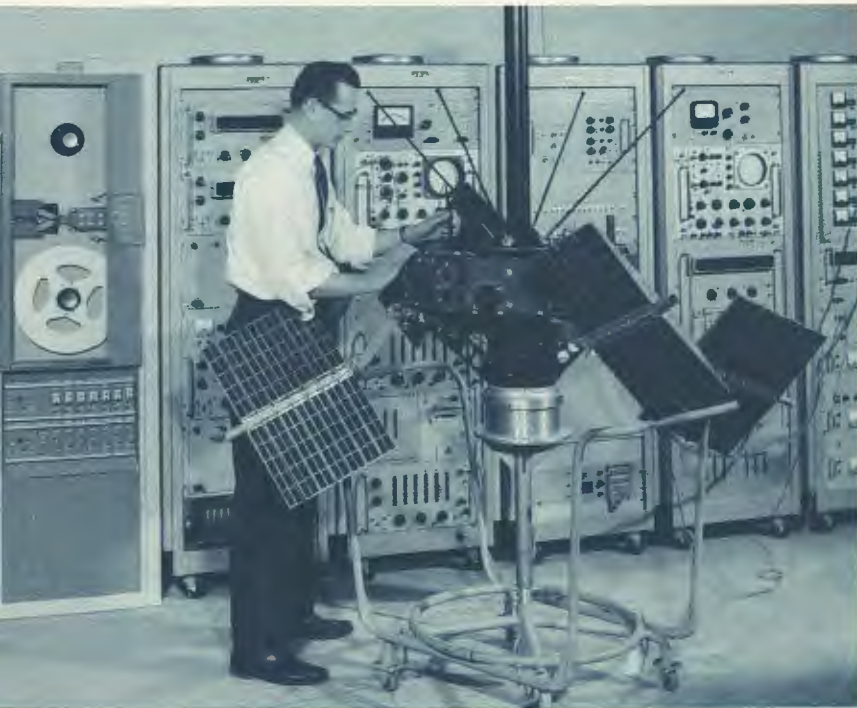


TYPICAL AEROSPACE PROGRAMS USING EMR EQUIPMENT ARE THE NASA PROJECT MERCURY SPACE CAPSULES, ALL TIROS WEATHER SATELLITES, SKYBOLT, TITAN I AND II, SATURN, SURVEYOR, NIKE-ZEUS, ORBITING SOLAR OBSERVATORY (S-17), AND MANY OTHERS.

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## THIS IS EMR TODAY . . .

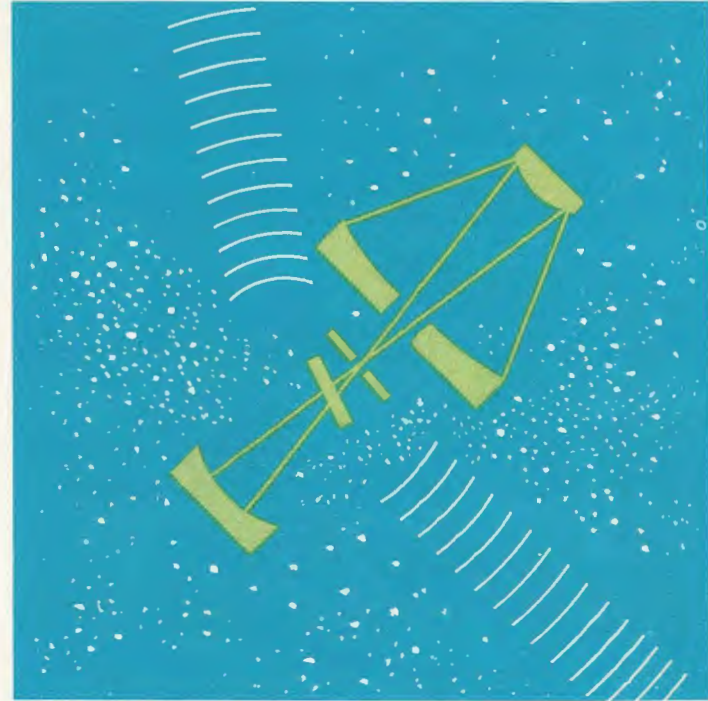


IN DATA INSTRUMENTATION EMR consistently sets the pace. New products and system techniques result from program continuity assured by company sponsorship in promising areas. Recognition of future needs and funding programs to meet those needs is an EMR policy. Some important new product developments which have recently evolved include micropower redundant logic circuitry applied to encoders in advanced satellites; universal PCM ground stations to accept PCM formats of the future; modular, precision FM ground-station instruments to greatly expand the flexibility of FM equipment; and many others.



## ... AND IN THE FUTURE

HANDLING LARGE COMPLEX SYSTEMS PROGRAMS for over 15 years has given EMR a body of experience in areas closely allied to data acquisition and processing. EMR now has technical groups with substantial experience in electro-optical systems, bandwidth compression systems, electromagnetic systems, reconnaissance systems, oceanographic systems and others. In each of these areas EMR has capabilities which cannot be found elsewhere. To develop these fully the company has diversified its research to concentrate on a spectrum of promising new technologies. These will soon find application in industry, in space missions, and in underseas research.



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